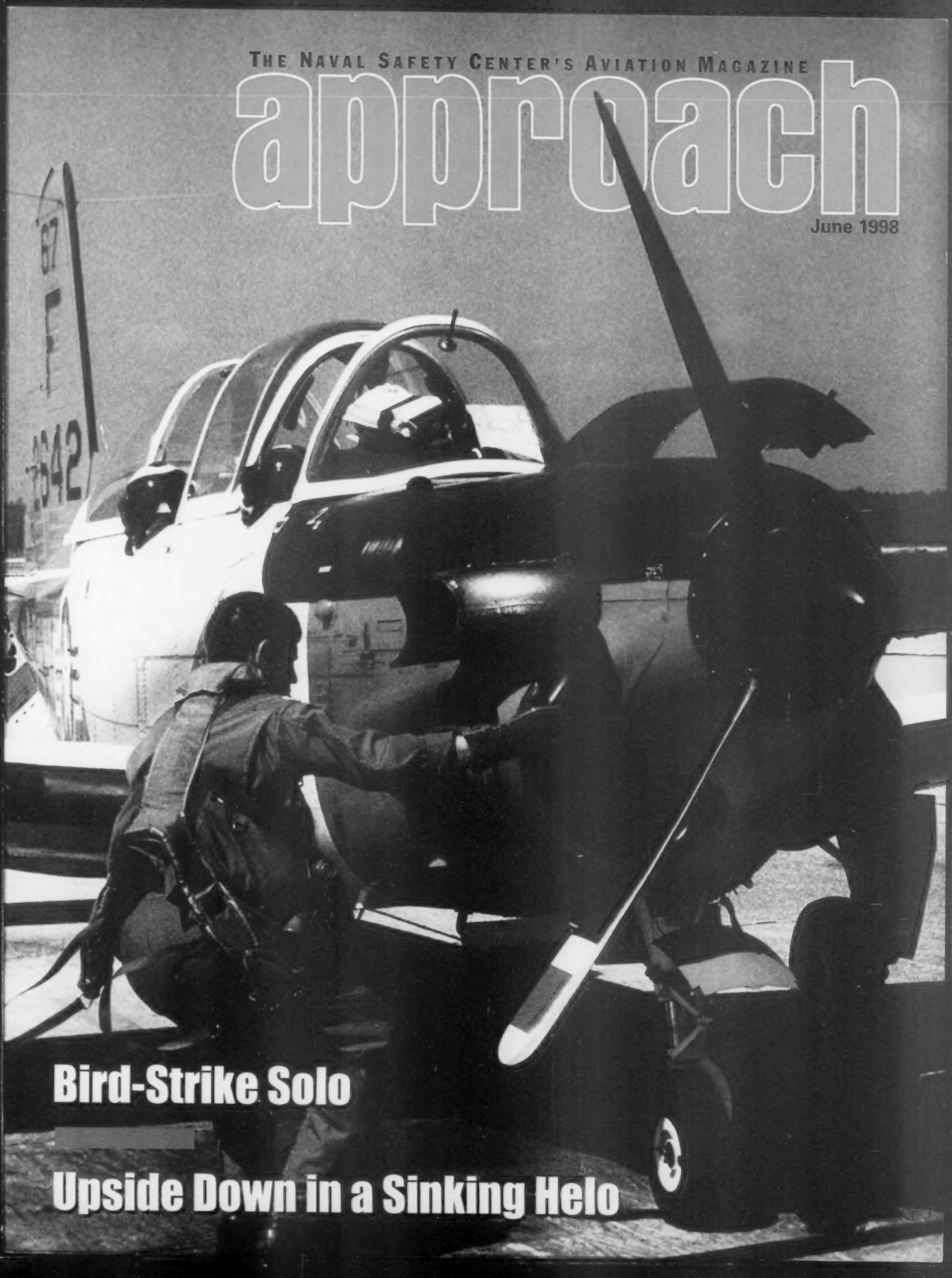
THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

approach

June 1998



Bird-Strike Solo

Upside Down in a Sinking Helo

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Volume 43, Number 6 June 1998

On the cover: Preflighting a T-34C of VT-4. (Photo by Peter Mersky)

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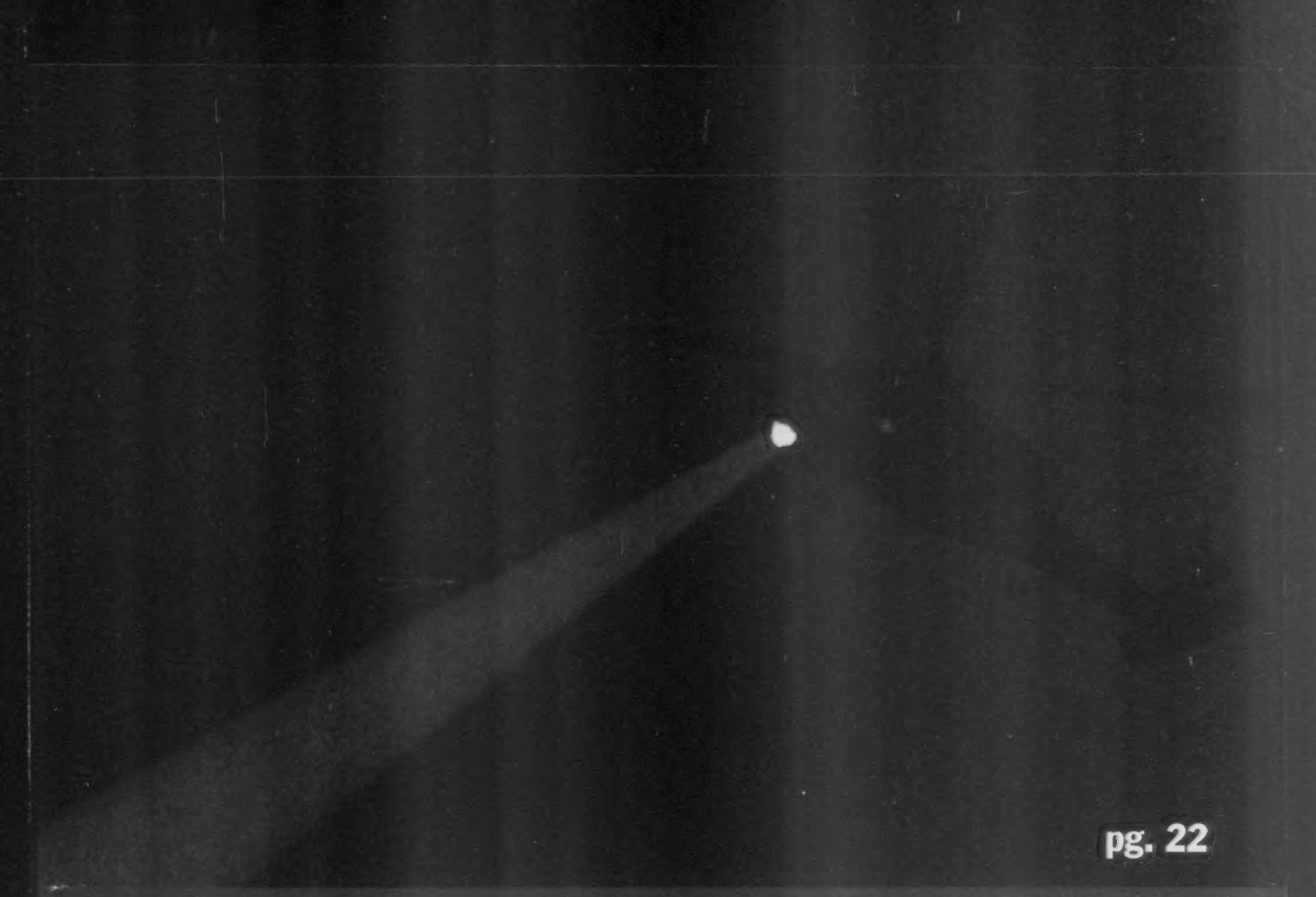

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Short-Ti

by Capt. R.J. Neff

IT WAS SUPPOSED TO BE just another night "X" for Lt. Jim Deyo, USCG, and his student, 2ndLt. William Howlett. They took off from NAS Whiting field for a night basic-instrument sortie. Howlett had just finished the simulator portion of the BI syllabus and completed FAM 7, which meant he had less than 15 hours in the T-34C. This was also his first night flight and the first time in the back seat of the Turbo Mentor. Lt. Deyo, a C-130 driver, was a year and a half into his training-command tour and had accumulated about 1,000 hours in the T-34C.

Lt. Deyo trimmed the aircraft for level flight at 700 feet while clearing the traffic pattern for the frequency change to departure. The next thing the SNA heard was a lot of noise and a huge rush of air.

"I just felt a sudden rush of wind in the cockpit, and I couldn't see anything," 2ndLt. Howlett recalled.

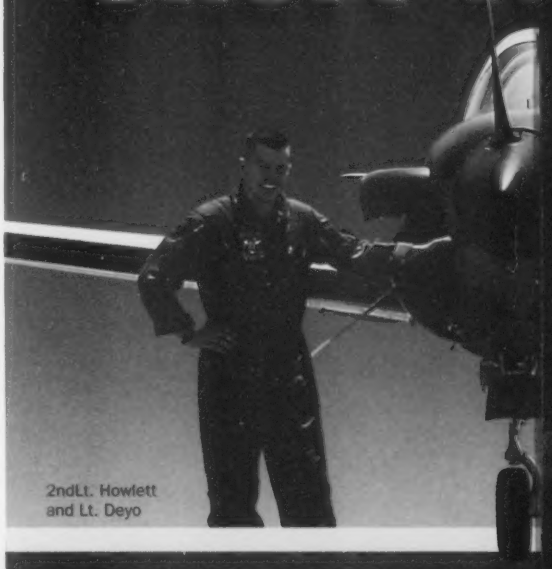
He thought his canopy was open but couldn't see anything because his visor was covered with the blood and the remains of a bird that had just smashed through the windscreen. As he raised his visor, he began to see the damage. Lt. Deyo's helmet was in his lap. Howlett saw his instructor slumped to one side and a large hole in the windscreen. Bird strikes at North Whiting are rare, but when the 4,400-pound trainer does hit a bird, the damage can be extensive.

The student thought that the IP was still flying the aircraft. He yelled to Lt. Deyo, but there was no response. When the aircraft began a slow roll to the right, passing through 20 degrees AOB, 2ndLt. Howlett took the controls. He told North Whiting Tower that they had just hit a bird and that his IP was unconscious. When the controller asked his intentions, the Marine SNA replied he would maintain altitude and heading, waiting to see if the IP would come to. Tower then told him to switch to Pensacola Departure.

Having heard the commotion, other Training Wing 5 instructors monitored the situation. Lt. Todd Bestor, a VT-3 instructor, was in the vicinity and in a position to help. He patiently listened to the radios.

On the ground, the VT-6 FDO had heard about the incident and was making telephone calls, preparing for either a bailout or a crash landing, and activating the pre-mishap plan. The VT-6 ASO was close by and was preparing to talk the student down.

Meanwhile, 2ndLt. Howlett was checking in with Pensacola Departure and had climbed to 2,500 feet. Departure control vectored the aircraft back toward North Whiting and switched Howlett to North Tower frequency. It was un-



2ndLt. Howlett and Lt. Deyo

"I just felt a sudden rush of wind in the cockpit, and I couldn't see anything..."

me Solo

usually noisy in the cockpit. To compensate, he lowered his head below the glare shield to hear the radios better. To complicate matters, the left side of the canopy was covered with blood, which reduced visibility.

Sitting in the back of a T-34 and flying at night is challenging enough for instructors, but it becomes much more complex if you only have 15 hours of total flight time, and it is your first time in the back seat.

The radio reception on tower frequency was particularly bad because of feedback and a hot mike, as 2ndLt. Howlett prepared to land. He had already passed over the airfield once but hadn't seen the runway. Lt. Bestor, giving the damaged T-34C a wide berth, led 2ndLt. Howlett to the final approach for runway 14. The student descended to 1,000 feet, configured the aircraft for landing, and began the straight-in to runway 14.

As he passed 400 feet, Lt. Deyo, who was badly injured because his face had taken the brunt of the impact, shook the stick, indicating he had control. As the SNA pushed the controls fore and aft, the lost-ICS response indicating a positive change of controls, Lt. Deyo reviewed the landing checklist, switched on the landing lights and landed. The injured instructor had a lot of blood on his face and blood was coming out of his eyes. He knew he had to land the aircraft as soon as possible and get to a hospital.

As the aircraft rolled to a stop on the runway, crash crews raced in. Second Lieutenant Howlett was covered with bird guts, and the crash crew thought he was hurt. However, he waved them toward Lt. Deyo, who had blacked out again after shutting down the engine. The local hospital helicopter took the seriously injured instructor to the emergency trauma unit at the local hospital. The SNA went to the base medical clinic.

Postflight inspection revealed that the T-34C had struck a great blue heron. A fully grown heron can be five feet tall, weigh more than 10 pounds, and have a six-foot wing span. Multiple parts of the bird were found in both intake ports of the T-34C, as well as the rear cockpit. Damage was $30,000. Unfortunately, Lt. Deyo lost his right eye.

Lt. Deyo and 2ndLt. Holwett received the Air Medal for their courage and skill during this unusual incident. Lt. Bestor received the Navy and Marine Corps Achievement Medal. Second Lieutenant Howlett finished his BI hop five days later.

Capt. Neff is a Huey pilot and an instructor with VT-6.

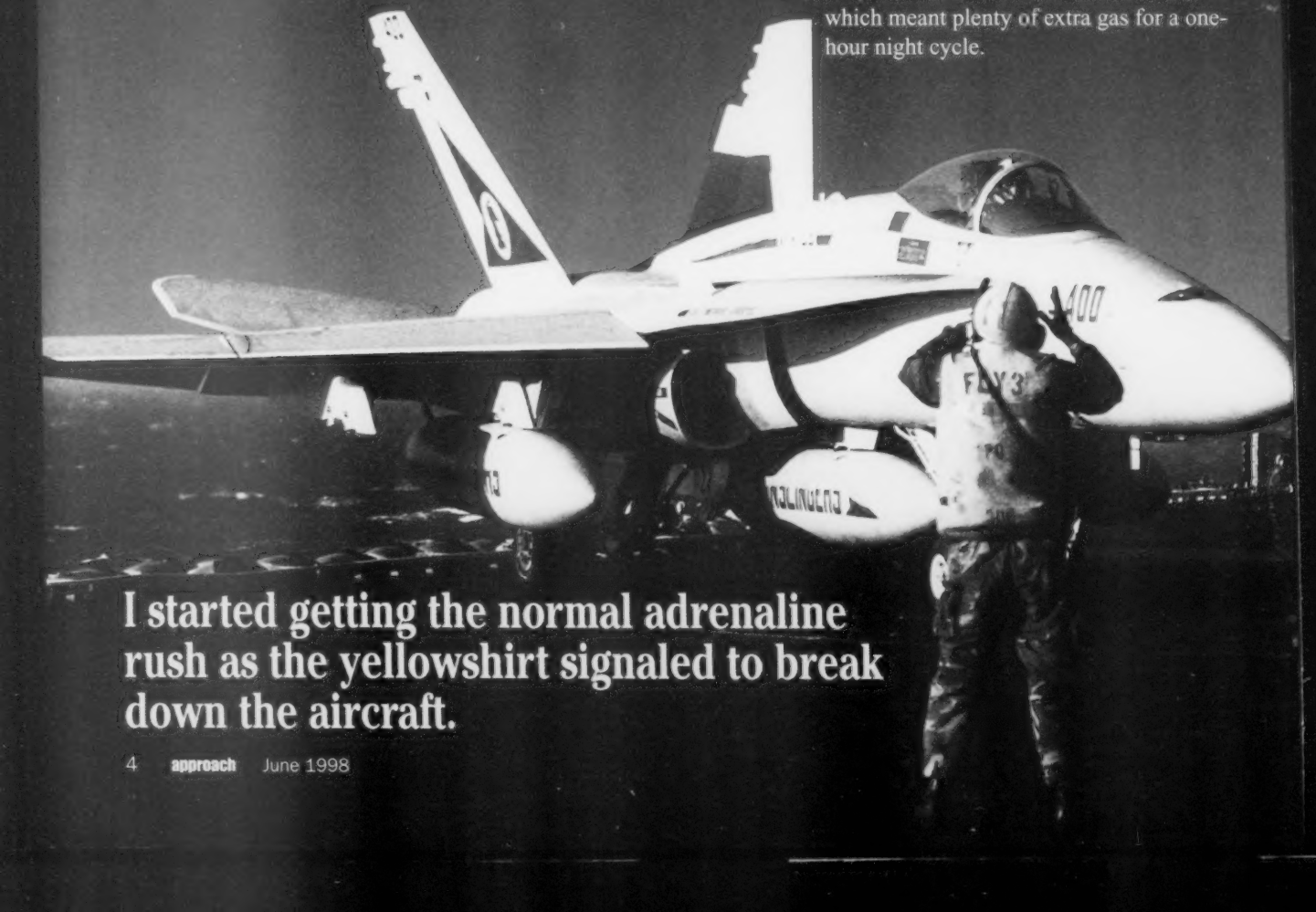
Space-Sh
Departure i

by Lt. Jeff Hyink

AS A NUGGET REPORTING to my first fleet squadron, I knew that I had much to learn about shipboard operations and Hornet systems.Underway in the Atlantic during my first workup exercise, I checked both boxes.

The stage was set with a 2 v 2, in-house AIC on a coal-black night with many overcast layers. Our brief centered on spins for the runs and an extensive discussion of the recovery and night trap. I didn't appreciate the attention to contingencies. Preflight and startup went fine, and I started getting the normal adrenaline rush as the yellowshirt signaled to break down the aircraft.

The first third of the cat shot was also normal, until the steady acceleration was interrupted by Betty's deedle-deedle. Off the end of the stroke, I was climbing and staring at the waterline symbol, which had replaced the velocity vector after Betty had warned me that I had just lost the INS mid-stroke. My instinctive reaction was to bend the throttles over the burner stops and make the Space-Shuttle-One departure into the goo. For once, I was glad to be flying the "buffalo" (a Hornet with three external tanks), which meant plenty of extra gas for a one-hour night cycle.



I started getting the normal adrenaline rush as the yellowshirt signaled to break down the aircraft.

uttle-One nto the Goo

After telling my flight lead about my problem, I continued climbing toward clear airspace. Ignoring the rendezvous point, I concentrated on staying in the warning area. Then I broke out the PCL to make sure I didn't goon the in-flight alignment procedures.

I missed having the navigational security that accompanies a tight INS. The compass card on the HSI seemed to twist back and forth at random intervals as the magnetic compass gave it updates. After two frustrating tries, I confessed to lead that I was having trouble getting an alignment. We decided to rendezvous and call a squadron rep. Lead initiated the joinup while we waited for the voice of authority from CATCC to advise.

Within 20 seconds, our skipper determined that while I had done the procedure correctly, the "Not Ready" on the BIT page was proof that the INS would not be joining me for the rest of the flight.

As lead's aircraft lights emerged from the haze, I was thankful to have a solid point of reference from which to fly. My confidence in the Hornet's miniature standby gyro and the writhing HSI was slowly waning.

As I welded my eyes onto lead's wingtip and we started our descent into the marshal stack, I remembered from the brief what was expected and required of a wingman in a night, section approach to a drop-off on the ball. Knocking out the pre-descent checklist while orbiting in and out of clouds in the black night turned out to be challenging. Leaving altitude, I had the ILS up and ready and the ship's course dialed into my wandering HSI. As briefed, I wouldn't try to get an ACLS lockup, because if I did, I ran the risk of being locked up under my wingman's track.

Through platform and down to 1,200 feet, we were still in and out of IMC. Thick haze reduced our visibility at level-off. After tipping over onto the glideslope, lead dropped me off. The transition from formation flying to flying the waterline symbol in the HUD was hard, which led to a settle off the start and… waveoff lights! I couldn't believe I had gotten so far out of parameters that early in the pass.

Reassuringly, the "foul deck" call came shortly thereafter. As briefed, I found lead's lights at my 10 o'clock in the haze. I'd had my fill of night IMC formation flight, so I was glad when lead asked me if I wanted to "take it around without joining." Surveying the situation, I was comfortably flying just below the overcast at 900 feet with a barely usable horizon. I accepted the offer, thankful for a bit of comfort time flying my own jet and getting used to flying stand-by symbology. The following pass, while certainly not eye watering, got me aboard on the 2-wire without a hard landing or any screaming from paddles.

I learned a lot from this experience. I was thankful for a seasoned lead and a thorough brief that included weather contingencies. Making a second lap without joining worked well and provided the second benefit of building a minute or two of comfort time flying standby, arguably one of the harder tasks for a recently converted HUD cripple. I'm sure that having a few stand-by passes force-fed in the simulator during initial training and before this boat detachment also helped.

Lt. Hyink flies with VFA-83.

Going Over (to) San

by Lt. Al Bradford

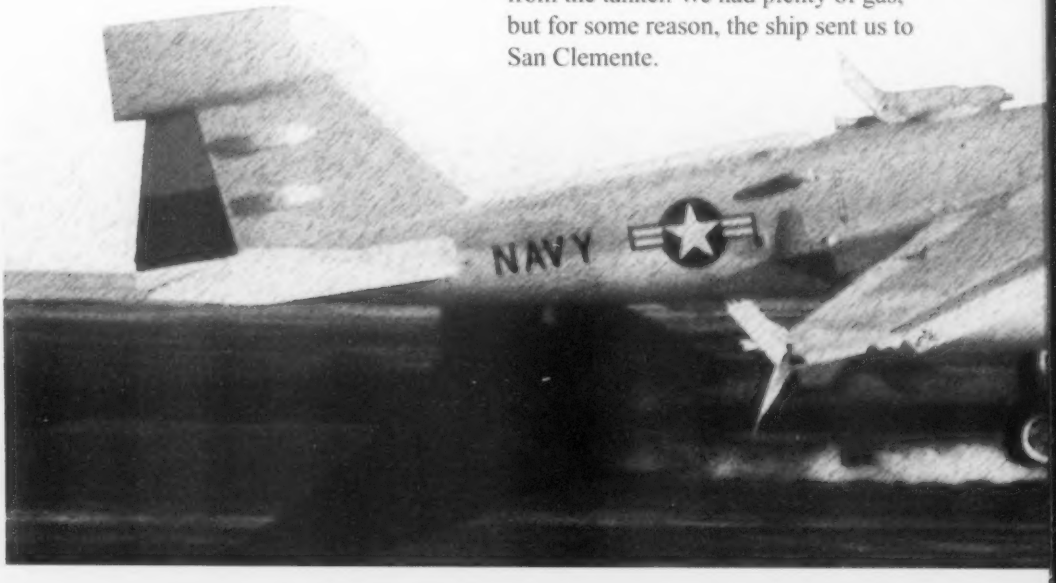
EVERY CARRIER AVIATOR flies a night event at the ship that feels more like driving through a dark tunnel. The loss of situational awareness, poor conditions, the seemingly uncaring attitude of the ship, and other factors give rise to the phrase "a night in the barrel." My first real night in the barrel occurred during work-ups for my nugget cruise.

The ship was working in the SoCal operating area this December. We launched for a night CQ, and during our mandatory 20 minutes of comfort time in the clouds, we heard the controller say, "Ninety-nine, MOVLAS recovery." An interesting call, considering it was the first night of CQ for the air wing. It turned out the lens was not keeping up with the pitching deck.

"No problem," I thought. I had had a few MOVLAS traps, and after about 30 total traps, I was getting the hang of it (ha-ha). The combination of my inexperience, the rain squall, and the pitching deck led our Prowler to three bone-jarring, hook-skip bolters in a row… then the fun began.

"Ghostwalker Six Two Zero, your signal tank," our controller called.

We climbed to 8,000 feet to find the S-3 tanker, but only found a bunch of clouds. Shortly after mentioning this to the controllers, we heard a loud whoosh and passed about 50 feet below a nearly invisible S-3 heading in the opposite direction. After the three ECMOs had calmed me down, we found ourselves getting dragged by the S-3 toward San Clemente at 17,000 feet. We plugged at bingo fuel and took about 6K from the tanker. We had plenty of gas, but for some reason, the ship sent us to San Clemente.



Clemente in a Barrel

San Clemente Tower asked if we wanted a trap. While activating the rain removal system, my ECMO and I decided we didn't need a trap. Obviously not a good call since it was raining, we had carrier-pressurized tires, and a heavy gross weight after tanking.

After touching down on the 8,000-foot runway, I tried the brakes at about 100 KIAS and found myself going sideways. ECMO 1 started asking me if I wanted the hook extended.

"Yes!" I replied, as we skidded sideways in the other direction, finally stopping in the long-field gear near the edge of the runway. We had plenty of time for some deep-breathing exercises while we were stuck in the gear.

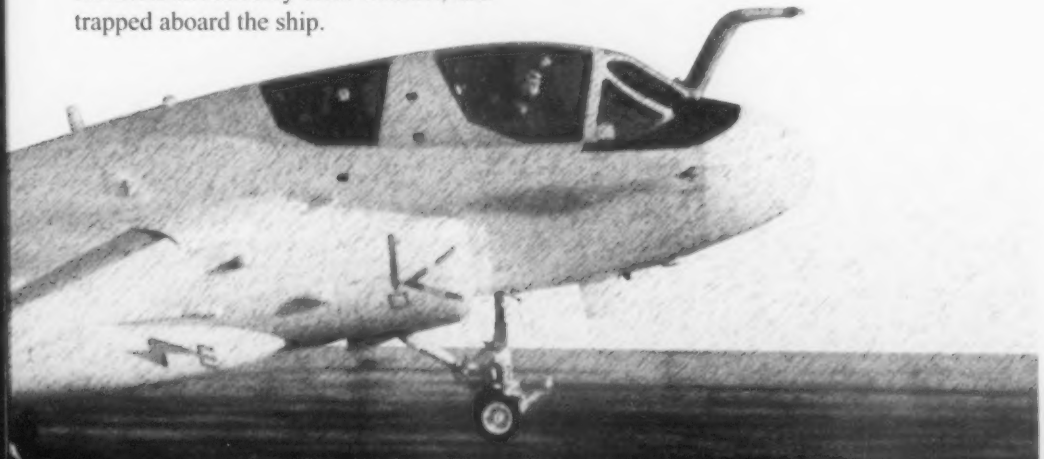
After waiting for an hour, we hot-pitted, launched in suddenly clear weather, and trapped aboard the ship.

I learned many important lessons that night. First, don't let the ship drive you into a bad situation. It's much wiser to head to your bingo field a little early, rather than look for a tanker in bad weather at a low state.

Second, the tanker pattern overhead the ship is meant to be flown in VFR conditions for good reason. Flying in the clouds at the same altitude with other aircraft and no means of separation is stupid.

Third, in an EA-6B, you must always consider the effects of carrier-pressurized tires, wet runways, and heavy gross weights on landing rollout. Also, if the tower suggests a short-field arrestment, you should strongly consider it.

Lt. Bradford flies with VAQ-139.



...I tried the brakes at about 100 KIAS and found myself going sideways.

As If SAR Wasn

by LCdr. James A. Pierce

IT WAS THE WINTER OF 1990, and I was on my second long cruise to the sunny Arabian Gulf. Our ship was on escort duty, protecting American-flagged tankers sailing in and out of the Straits of Hormuz. On one such mission, the tanker we were escorting exploded! Thousands of gallons of home-heating oil and naptha poured out of the hold, with the tanker and surrounding water ablaze.

Our aircrew had already briefed for a separate mission, so we re-briefed the SAR portion and prepared for launch. I briefed the wet aircrewman, telling him I intended to "put him in the water" if we found any survivors.

We launched, and sure enough, about 4,000 yards from the tanker was a small motor whaleboat with 22 men who had abandoned ship. One drove the boat with the tiny outboard engine, and they were all waving excitedly at us. The adrenaline was pumping as we prepared for the rescue.

NATOPS says the rescue swimmer should enter the water, usually by jumping, and help survivors except when the aircraft commander decides he could be in unnecessary danger.

I told my copilot I was descending to 10 feet (our altitude for jumping a SAR swimmer). He rogered and backed me up. Then I said, "Stand by to deploy swimmer."

My dry swimmer (who operates the rescue hoist) said in surprise, "You mean you're going to jump him?"

"That's affirmative. Stand by to deploy swimmer."

I didn't realize that the aircrew in the back thought I intended to lower the swimmer into the water because we were so close to the

't Hard Enough

My dry swimmer (who operates the rescue hoist) said in surprise, "You mean you're going to jump him?"

motor whaleboat, which I appeared to be doing my best to swamp. Twenty thousand pounds of downwash can wreak havoc on a little boat. Talk about loss of situational awareness. Meanwhile, in the back, the dry swimmer grabbed the wet swimmer, yanked him back into the cabin, pulled the rescue collar off him, shoved him back toward the door, and tapped him on the chest (the signal to stand by to deploy swimmer). The wet swimmer's eyes became saucers. I said, "Jump, jump, jump," the swimmer got three taps on his shoulder, and away he went.

He now had 500 yards or more to swim. You see, my incredible low hover had blown the whaleboat clear from the rotor arc. The survivors, not wanting to go through this again, had continued to get away from the helicopter with their puny outboard.

The story ends with my swimmer finally getting aboard and saying my favorite line, "I'm a rescue swimmer and I'm here to save you!" Some of the survivors jumped up and hugged him. It was pretty cool. A few needed medical treatment and were flown ashore.

Lessons learned? Aircrew coordination. You get what you brief. Since then, I brief that portion of a SAR in detail, explaining where and how I will deploy my swimmer, using standard terminology. Likewise, I learned a lesson in situational awareness and humility. There's nothing like finally jumping your swimmer in the water for a real rescue, only to find that you nearly swamped his potential rescuees, blew them a good 20-minute swim away, and had to watch the survivors throw him a line to get him into their boat.

LCdr. Pierce flies SH-60Bs with HSL 48's Det 1.

"We Just Put an Air

by AME1(AW) David B. Clouser

AS I DROVE TO WORK, I thought about what I had to face for the day. Maybe a 28-day pre-panel-up inspection, maybe a post-panel inspection, or maybe even some ejection-seat inspections or installations, which I always looked forward to.

We had our usual meeting to cover the day's launches, inspections and wrenchwork. Everything seemed fine as I left maintenance control for the QA work center to begin my routine as an A-6E full-systems QAR. The squadron was doing field carrier landing practice (FCLP).

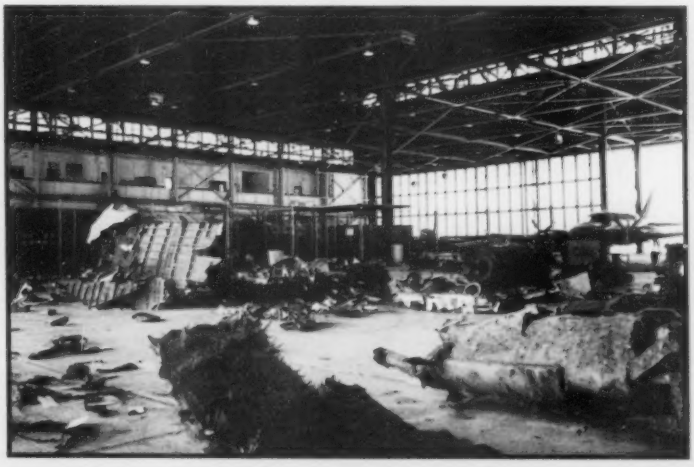
A call went out for troubleshooters for the three-plane launch. Since I was the only QAR available, I grabbed my cranial and headed for the flight line. Once there, I did my usual survey: no FOD on the GSE, everyone suited up, tool pouches FOD-free. The three-plane go left without incident. Smooth as silk.

I walked inside to maintenance to review the aircraft discrepancy books (ADBs). That's where all semblance of a normal day ended. I had gotten through my second ADB when three officers in flight suits looking rather rushed and panicked barged in asking, "What the hell just happened? Did the aircraft call in?"

I said, "No, everything's fine as far as I know. Why, what's wrong?"

"He went in," the pilot replied. "We just put an aircraft in the bay. Don't touch any more ADBs."

I heard the other aircraft coming back, and I rushed out to the flight line where a crowd was already forming and the gossip beginning.



I walked up to the wingman pilot and asked, "Were there any chutes? Did you see them eject?"

He said, "No, I didn't see any seats," as he kept walking past me into the hangar. I couldn't believe this was happening. I had just seen the crew not 10 minutes earlier during the launch. What happened? Had I really checked everything as carefully as I could? Had I missed anything? Things around the hangar were moving fast. I started seeing people I didn't recognize coming into the hangar. There were so many that the guy on duty at the main entrance couldn't keep up.

A chaplain showed up and was randomly checking to see how everyone was feeling. The plane captains were hit the hardest, because I saw the chaplain talking to them the most. None of it seemed real, and I was having difficulty knowing where I needed to be. I soon found out.

A call went out for all members of the reclamation team and shop supervisors to muster on the hangar deck. We were told about the crash. As soon as more information came in, we would hear that, too. We broke ranks, and the gossip continued.

Initial reports were that neither the pilot nor the BN had survived. I hoped that wasn't so. Another call told me to report to maintenance ASAP. "Uh, oh," I thought, "What was that about?"

One of the officers was trying to assemble a salvage team. The people hanging around in maintenance didn't

With the s
jet fuel hang
the area was
unrecogni

craft in the Bay!"

look good. Some were visibly upset as they tried to carry on with the task at hand. The officer put me in charge of a team that had to go out in boats and start collecting anything we could find. I was selected because I was familiar with the ordnance in the seats. My heart sank. To know that something had happened was bad enough. Now I had to go pick up the bits and pieces. I told everyone from the team to report to the duty office with their tool boxes.

Anticipation and fear rose as we boarded the boats to go out to the wreckage in the bay, mostly because none of us knew what we would find. We were silent as we prepared ourselves. We headed out in two boats; I rode with the OinC, and the rest were in a platform boat. The anxiety rose when we saw another boat on its way in, hauling part of a flap and other small parts with them. That crew was from another squadron dispatched from the base to assist.

We pressed on to the area where the wreckage was supposed to be and got down to work. With the smell of JP-5 jet fuel hanging in the air, the area was peppered with unrecognizable parts. I couldn't imagine the force it took to do that to a war machine—not until I gathered up a lox bottle that was normally enclosed in its metal cocoon in the tail of the aircraft. We collected parts of a fuel bag, honeycomb wing parts galore, a helmet, kneeboard maps and the like. Once we had gotten what appeared to be everything, we headed back to the staging area in the hangar. I still wondered about the crew.

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ng in the air,
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able parts.

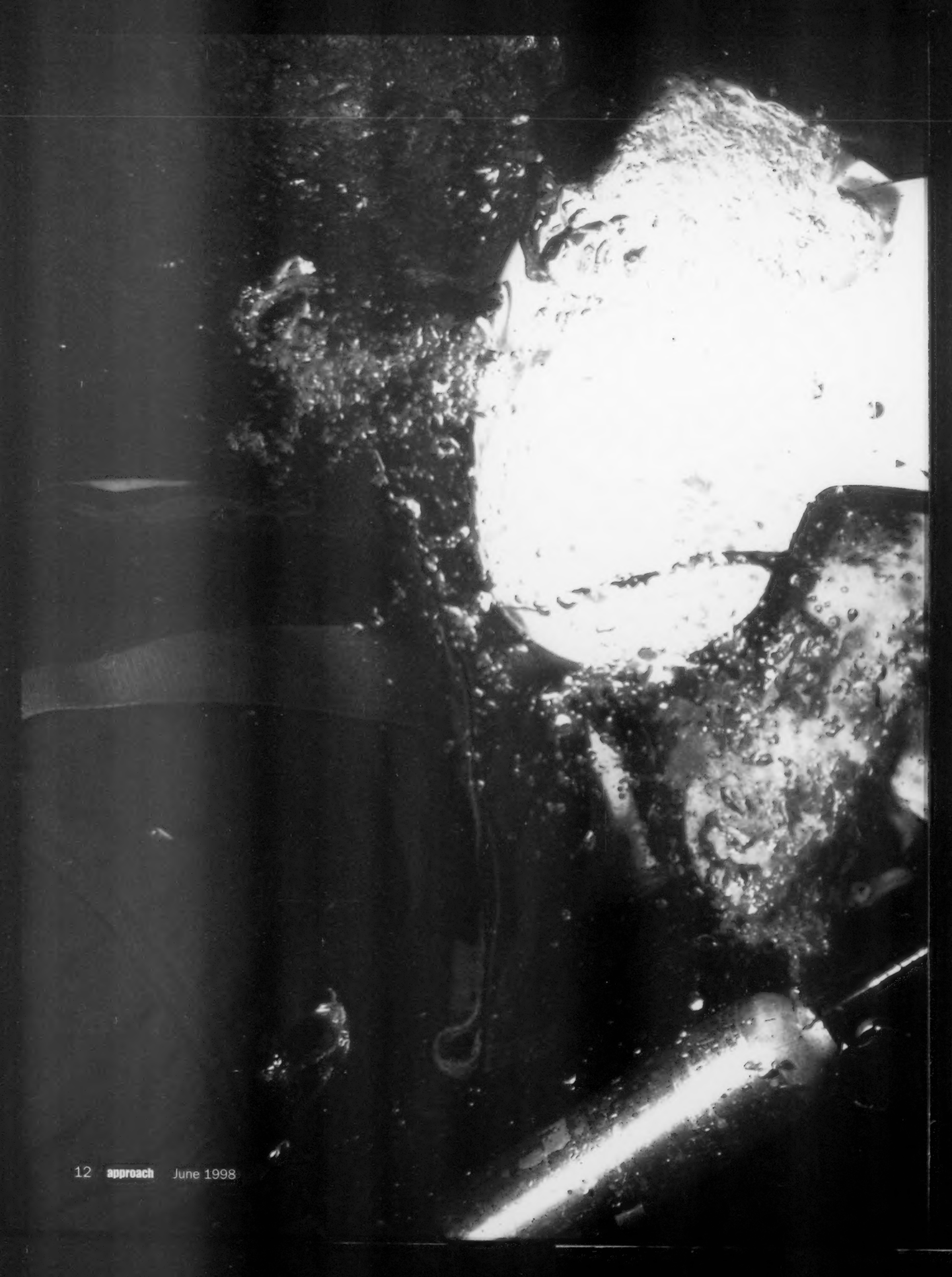
Once I got back, I learned that a fisherman had found the crew immediately after the crash. The pilot had died during efforts to revive him, and the BN had been killed instantly. My question about the seats was answered by one of the investigating officers who reassured me that the seats did work, but the crew had been out of the envelope. None of the seats was recovered.

As the next 30 days of salvage by the divers passed and the wreckage stored in a hangar next door piled up, I was startled by the amount of unrecognizable debris. It took three or four tri-wall boxes to hold all of it, and the hangar deck was still completely covered with parts of an imaginary puzzle that couldn't be assembled.

When I got home that afternoon, my wife had been watching the news. I was shocked at how much attention the mishap got. Images flashed across the screen of us collecting debris, the pilot getting CPR from Coast Guard personnel on shore. My father called to ask what happened. My wife and her friend watched the whole thing like a TV show, and even she couldn't believe what she was seeing.

Time has not diminished the impact of what happened that day, and the memory makes me more careful. Nearly every job I take on at work is a subtle reminder of that day, and I find myself being much more meticulous, mainly because I don't want to revisit that day.

AME1(AW) Clouser was with VA-304 at the time of this mishap. He is now with VR-46.



Now It's For Real!

by LCdr. Bill McCormack and Lt. Mike Prevost

THE HAC IS AT THE CONTROLS when the aircraft suddenly plunges into the water. In seconds, the fuselage begins to sink and roll. He waits for the violent motion and rushing water to stop before he tries to get out. Although disoriented by the roll of the aircraft, he manages to release his restraints, find his Helicopter Emergency Egress Device (HEED), and uses his reference points to escape.

Reaching the surface, he pulls the beaded handles on his life preserver (LPU), but the CO_2 cartridge doesn't work. The HAC orally inflates his LPU, then looks around for the rest of his crew. He sees everyone got out and even managed to get a multi-place life raft out of the aircraft. The copilot has hurt his back during the ditching.

Once they inflate the life raft, the HAC tells everyone to get in. Next, he and the crew chief get the injured copilot into the raft. Once in the raft, the HAC begins delegating duties. The crew chief attends to the injured copilot. The aerial observer begins bailing water and acts as the signaling coordinator, and the HAC starts talking on his PRC 90 and inventories survival items.

As a rescue helo arrives, the crew leaves their raft and prepares for recovery. Each crew member is hoisted one by one into the hovering helo.

This may sound like a real situation, but it is actually one of the training modules in the new Scenario-Based Refresher Water Survival Training curriculum recently tested at three Aviation Survival Training Centers (ASTCs).

Rick Mullen

These changes are strictly for refresher aviators and aircrew. Initial students will still complete the traditional water-survival training. The new water-survival curriculum adds realism to water-survival training. It was designed by the staff of ASTC El Toro (a detachment of the Naval Operational Medicine Institute [NOMI], Detachment West), and further developed and refined by the Naval Aviation Survival Training Program Model Manager at NOMI, Pensacola. While effective, the old syllabus focuses on specific training elements. The new curriculum focuses on the most probable scenarios for each type of aircraft.

The emphasis in the jet curriculum is on the para drag. Scenarios include broken-arm and blindfold drills for aircrew. After the drags, aircrew have to show that they can swim and float (G-suits can be inflated during some events), finishing with helo hoists.

For jet aircrew, there is only one helicopter dunker ride, simulating a situation where the aircrew are being transported ship to shore, and the helo goes into the water.

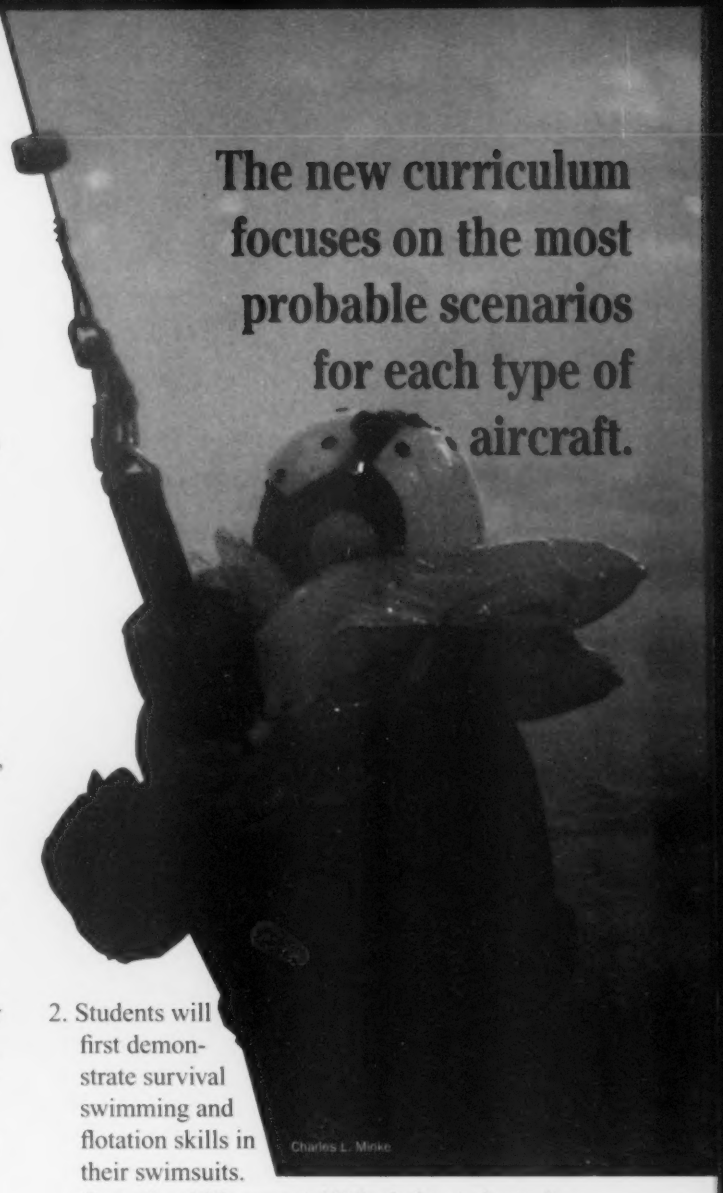
The prop curriculum focuses on the dunker, with most rides sinking straight down. Various scenarios are used after each dunker ride, taking the students through flotation drills, swimming drills and extended sea survival, finishing up with helicopter hoists. Aircrew who might have to bail out will train on the para drag similar to the jet aircrew along with injury and blindfold drills.

The helicopter curriculum emphasizes the Shallow Water Egress Trainer (SWET) and the dunker. During SWET drills, there will be two trainers in the shape of a "T," and students will go through five scenarios using the HEED. Most ASTCs have (or will soon receive) panels on the trainers that have latches that students will have to activate as they egress. The goal is to have each student very comfortable with the HEED bottle, because they will also use it in the 9D5 underwater egress trainer.

The first two rides in the helo dunker are without the HEED, and aircrew will conduct flotation, swim and extended sea-survival drills after they get out of the trainer. Students will use the HEED bottle during their last two rides.

In addition to survival scenarios, we've made several other changes:

1. The classroom portion now takes approximately two hours to review procedures and equipment that were learned at the last training session and during physiology classes.



2. Students will first demonstrate survival swimming and flotation skills in their swimsuits. Once the skills are established, the students don their flight gear.
3. The 75-yard swim in flight gear, the two-minute treading water and two-minute drownproofing have been replaced by swimming and flotation drills during the scenario training.

Once the in-water training is done, students take a written final test on water-survival situations and then are asked to complete a course critique.

We validated the pilot course at ASTCs El Toro, Jacksonville and Norfolk. After a very successful three-month trial period, the new training was implemented fleet wide in January 1998. Each local ASTC will have some leeway in developing survival scenarios specific to their pool configuration. If you have any questions or would like to see the new training, stop by your local ASTC.

LCdr. McCormack and Lt. Prevost are assigned to NOMI, ASTC El Toro.

Pop-Ups

- Better HEED This!
- Tell It Like It Is - NAASREP
- New Tools for Preventing Human-Factors Mishaps

Improved HEED On the Way!

Since 1987, HEED has saved nearly 100 people after crashes at sea. Now HEED is going to be even better. A new, improved device is coming to the fleet as soon as training procedures are written. It will be used by crews in helicopters, E-2s and C-2s.

The new HEED (SRU-40/P) is more compact and easier to use. It gives one to three minutes of air, depending on the rate of breathing, depth of the water, and water temperature. It's a 3,000-psi aluminum cylinder compared to the current 1,800-psi unit.

Unlike its predecessor, the SRU-40/P has a 20-inch flexible hose and a silicone mouthpiece, so you can move your head much more freely. It has an on-off valve with an indicator pin and a pressure gauge showing a red zone for 0 to 2,700 psi and a green zone for 2,700 to 3,000 psi.

The new unit will work with all current and future vests. It weighs less than three pounds full. The SRU-40/P has been designed so that once it's turned on, it cannot be accidentally turned off.

Contact the nearest Aviation Survival Training Center for further details.

'Fess Up Anonymously

A new reporting system called the Naval Aviation Anonymous Safety Reporting Program (NAASREP) allows pilots, controllers and maintainers to anonymously tell it like it is about errors or shortcomings in their own or a shipmate's performance, or about hazardous situations in their command.

In the past, this type of real-life, human-factors information has been almost impossible to obtain, except in mishap investigations. This information could be vital in mishap prevention.

NAASREP in no way supersedes any existing reporting requirements. Instead, it is designed to offer insight into individual errors that probably didn't lead to a mishap but could in the future.

This program also gives the Navy a way to collect information about potentially hazardous situations. Incidents that typically may not require formal hazard reports can be documented in NAASREPs. They may include cockpit-resource-management problems, questionable practices, fatigue, and excessive pressure to launch.

Simply fill out and forward the NAASREP form to the Naval Safety Center. This two-page form may be downloaded from the Center's BBS and web site (*Aviation Weekly Summary* page). You can fax, mail or e-mail the completed form to the Center.

Information of specific value to the fleet will be sanitized for use without attribution in Safety Center magazines, the *Aviation Weekly Summary* on the internet, the monthly aviation safety message, and other media. For further information, contact John Cataldo, executive assistant, Aviation Safety Programs, Naval Safety Center, (757) 444-3520 Ext. 7226 (DSN 564).

New Tools for Preventing Human-Factors Mishaps

The Naval Safety Center has developed a user-friendly briefing package for safety officers, flight surgeons and aeromedical safety officers. The information was mailed in early May to all Navy and Marine Corps tacair and rotary-wing communities.

The Center's Aeromedical Division has categorized human-factor mishaps from FY90 through FY96. Squadrons can use the material in their safety programs as resource data.

The project is an ongoing effort to educate the fleet about the classification and prevention of human factor causes in aviation mishaps.

The material contains a Human Factors Accident Analysis and Classification System (HFACS) index, Class A flight mishap summaries, aircrew profiles, egress and survival summaries, human cause factors, and a mishap characteristic classification system index.

For further information, contact LCdr. Scott Shappell, Aeromedical Division, Naval Safety Center, (757) 444-3520 Ext.7231 (DSN 564).

Edited by Bud Baer. Contributors can contact him at (757) 444-3520, Ext. 7246 (DSN 564).

Milestones

Class A mishap-free flight hours

Command	Date	Hours	Years
VAW-116	11/05/97	45,000	22
VAQ-136	11/19/97	18,000	10
VFA-94	12/04/97	25,500	6
VS-30	12/08/97	64,500	18
HC-11	12/11/97	43,400	5
HSL-45	12/11/97	60,000	7
VFA-97	12/11/97	10,100	3
VMFA(AW)-332	12/11/97	71,700	9
VFA-131	12/11/97	40,000	10
VT-10	12/15/97	73,600	3
VFA-125	12/15/97	100,000	5.5
VT-4	12/15/97	25,900	1
VP-47	04/13/98	153,600	25

Class A Mishaps

The Navy and Marine Corps had 14 Class A flight and flight-related mishaps before 1 April in FY98. The following mishaps occurred since 1 April:

Aircraft	Date	Command	Fatalities
MH-53J	04/15/98	NADEP Cherry Pt.	0

The Super Stallion crashed onto the runway from a hover during an FCF. USAF aircraft undergoing depot-level maintenance, flown by a Marine crew, but a Navy mishap.

AV-8B	04/22/98	VMA-311	1

A Harrier crashed into a farm.

FA-18C	04/27/98	VFA-192	0

A Hornet crashed into the water after the pilot ejected during an FCF.

EA-6B	04/29/98	VAQ-142	0

AEB temperature light; Prowler crashed into the desert; crew ejected; four good chutes.

Class A Flight Mishap Rate

	FY98* thru 4/30/98		FY97 thru 4/30/97	
	No.	Rate	No.	Rate
Navy/Marine	18	2.18	18	2.03
All Navy	12	1.91	11	1.62
All Marine	6	2.99	7	3.35
NAVAIRLANT	2	1.14	4	1.14
NAVAIRPAC	5	2.72	3	1.59
MARFORLANT	3	4.54	2	2.88
MARFORPAC	3	3.16	5	5.10
NATRACOM	3	1.67	4	1.92
NAVAIRES	0	0.00	0	0.00
4th MAW	0	0.00	0	0.00
NAVAIRSYSCOM	2	12.70	0	0.00
Non-MARFOR	0	0.00	0	0.00
Non-TYCOM	0	0.00	0	0.00

*FY98 data subject to change.

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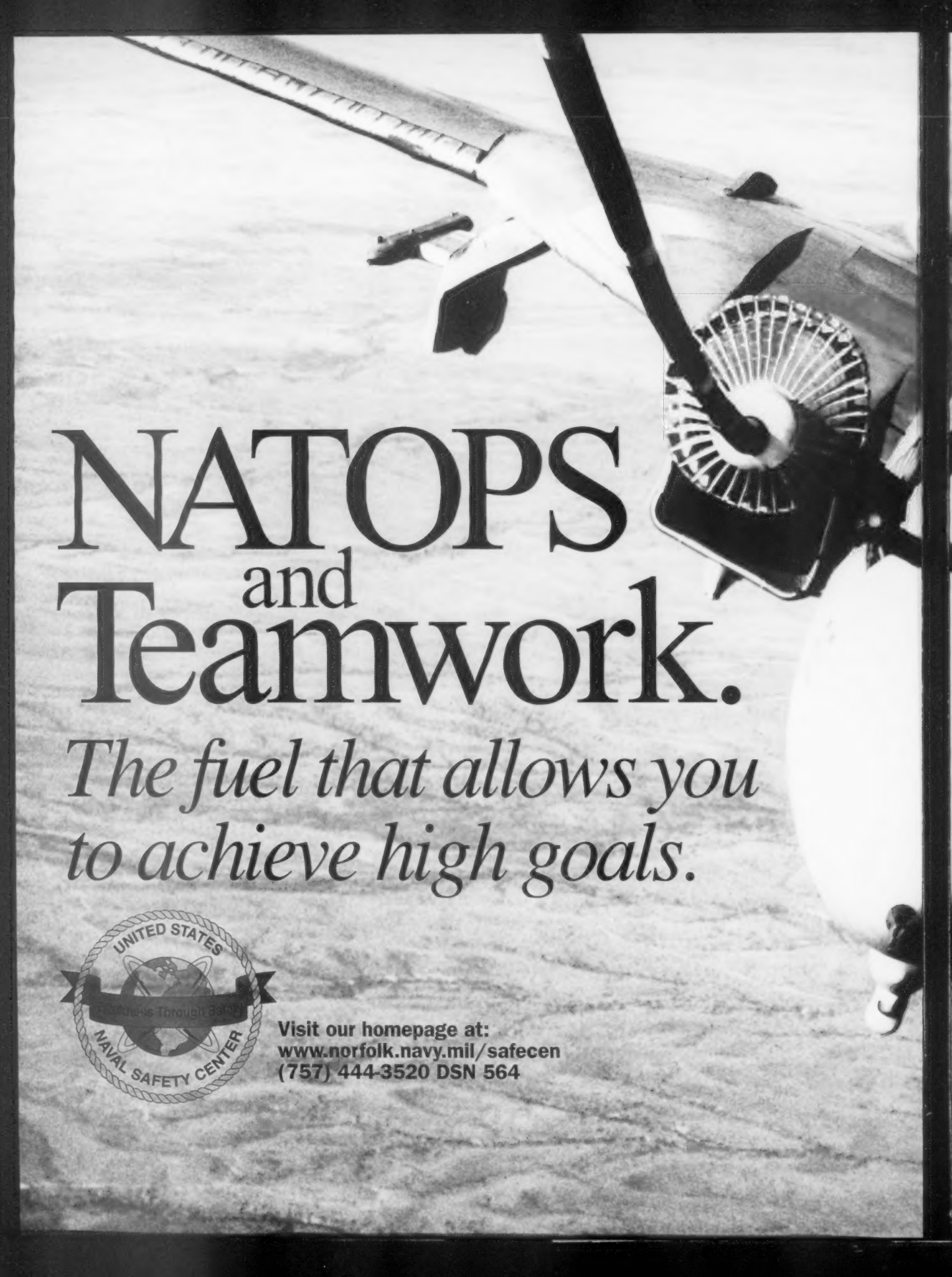
Visit our web site at:
http://www.norfolk.navy.mil/safecen/
For questions or comments, call LCdr. Enderson
(757) 444-3520 ext. 7245 (DSN 564)

Tear out this insert!
Post this newsletter until it's old news.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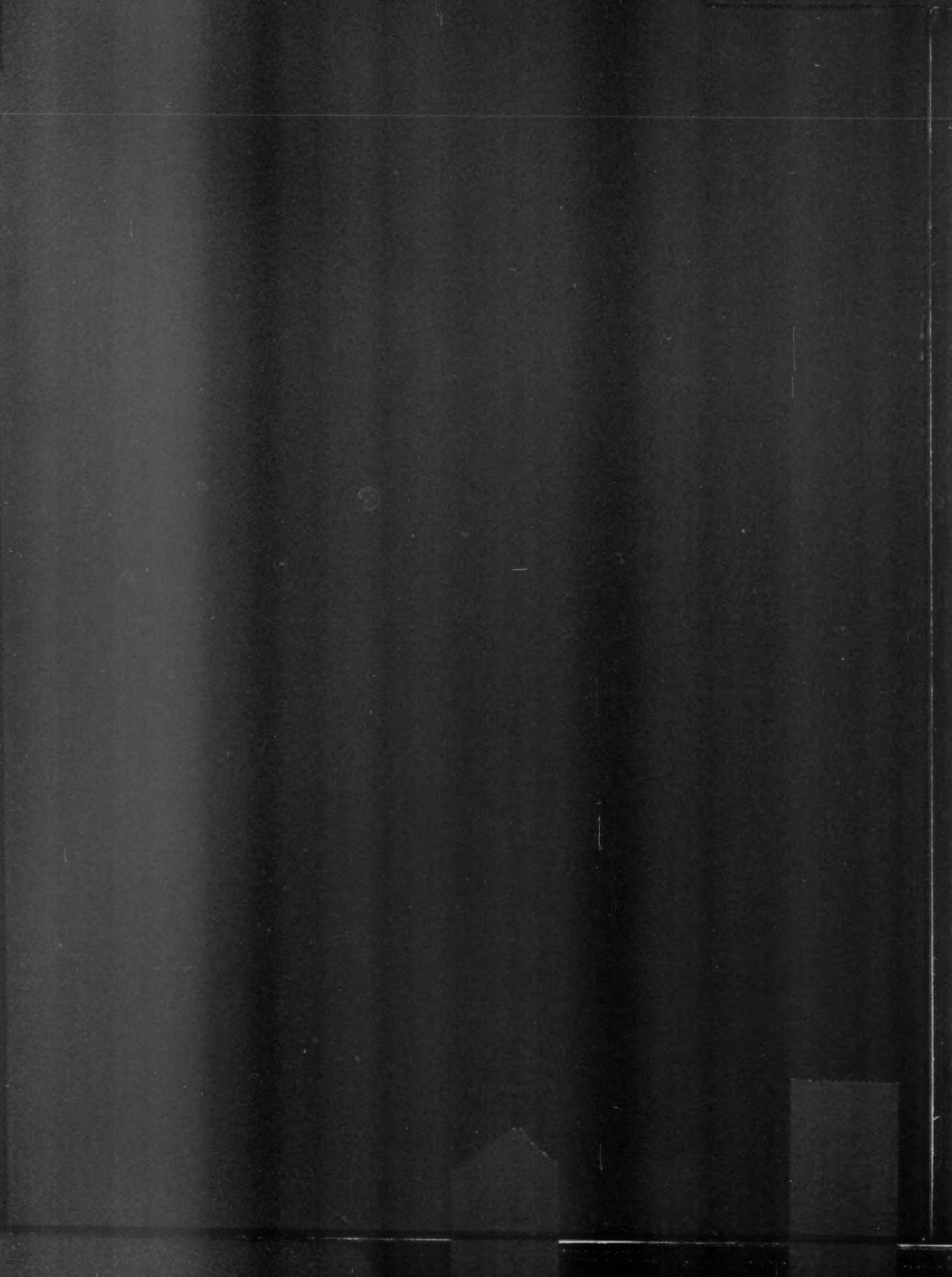


The Land of Aerodynamic Miracles

by LtCol. Peyton DeHart

ANY OF THE CARIBBEAN ISLANDS are lush, tropical and, in places, vertical. Last summer, we flew over some of the more rugged locales to spot marijuana fields. We were helping the host nation's police force combat a growing drug problem.

Our operation had Cobras scouting and Hueys hauling the troops to the zones that were spotted. The AH-1W Cobra is particularly well-suited to scouting because it has plenty of extra power, especially if carrying just an empty auxiliary fuel tank on the wing stub.

We flew low along the volcanic mountain ranges and when we spotted something interesting, we'd stop to take a look. We had more than enough power to hover out of ground effect. Our scan pattern had us motoring left, right, up and down. The downward movement of the helicopter was steady and controlled. There was a tremendous trade wind making the rotors more aerodynamically efficient. Why then did every Cobra crew report instances where they sank uncontrollably through the effects of power settling?

Power settling is an aerodynamic state where the rotors are so stalled out that increasing power only increases the stall, causing you to fall more quickly; decreasing the power reduces what lift there is, also making you fall faster. The only solution to the problem, as you fall, is to have a clear escape route that allows you gain forward airspeed to leave the disturbed air behind. Each of the crews escaped their stalls, which was nice, but no one could figure out why we were getting into those situations to begin with.

That strong, steady trade wind was the culprit. It raced in from the east, hit the side of the mountains and bounced upward. We felt like soaring eagles because we were flying in a constant updraft, which meant reduced power requirement. We were hovering on minuscule amounts of power, and that led us to conclude we were in a land of aerodynamic miracles. Nothing bad could happen to us. That was an error of perspective.

We were in a static, stable hover when compared to the vertical mountain face in front of us. But because we were hovering in an updraft, we were in a descent as far as the relative wind was concerned. In H-1s, the magic number of 800 fpm for a descent rate, with no forward airspeed, will result in power settling. We already had a substantial rate of descent going (in terms of relative wind, just hovering in front of a spot). When we moved downward to look at a lower field, our eyes told us we weren't falling fast, but the relative-wind vector crossed the 800 fpm line, and we stalled. It was disconcerting, but every pilot had an escape route planned and used it.

We thought we were soaring eagles, but were only a minute away from becoming processed turkeys.

LtCol. DeHart flies with MAG-42.

Salt-Wate

by Lt. Frank Verducci

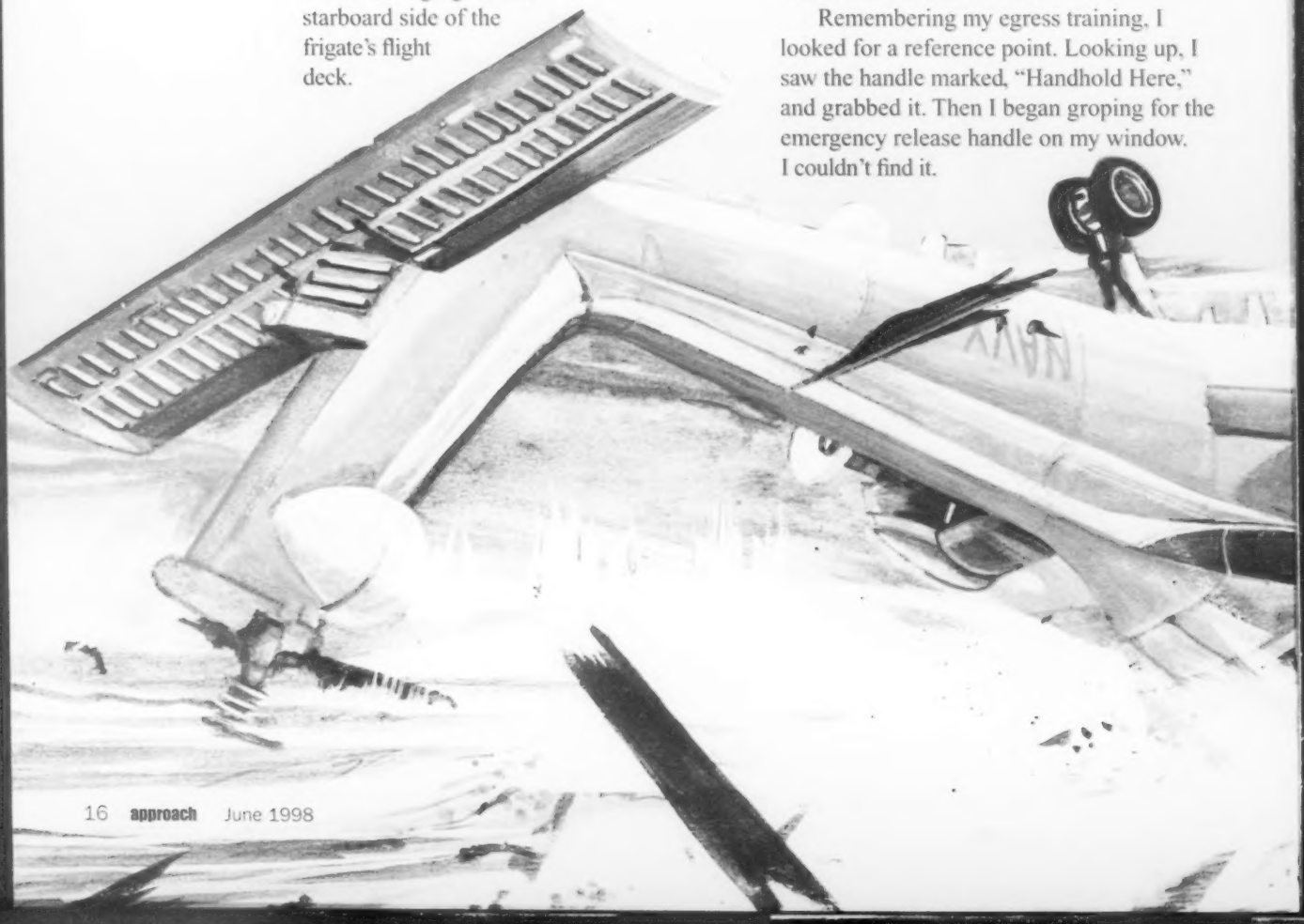
I DIDN'T HAVE A CHANCE to react or even think. The water was everywhere in the submerged cockpit. Warm salt water rushed down my throat, rousing me from my frozen state of shock and momentary paralysis. I gagged and gasped for oxygen. I had to get out of my upside-down SH-60B. All I could rely on was my training and my will to live.

Only seconds earlier, we had been lifting off for a routine SSC mission in the Northern Arabian Gulf. The entire crash sequence seemed to accelerate as it happened. Before I knew it, I was sitting in the right seat of the aircraft, hanging off the starboard side of the frigate's flight deck.

I lowered the collective fully down to try to get the helicopter back onto the flight deck. At that instant, the aircraft violently flipped backward and crashed inverted into the water.

The flood of water in the cockpit caught me completely off guard. Unlike water-survival training, I did not have a chance to take a deep breath. The windows had imploded on impact, so water immediately filled the entire cabin. In an instant, I went from hanging in the nets off the frigate to being submerged. My hands were still locked firmly on the controls as I began to swallow the warm salt water.

Remembering my egress training, I looked for a reference point. Looking up, I saw the handle marked, "Handhold Here," and grabbed it. Then I began groping for the emergency release handle on my window. I couldn't find it.



r Surprise

Once I realized I could not find the emergency release handle, I decided to use my HEED bottle and calm down. I pulled my HEED out and went through all the steps that I had been taught in water survival except one: I forgot to purge the bottle before I took a breath. When I took a deep breath, more water rushed down my throat. At this point, I knew I had to get out of the aircraft immediately, so I decided not to use my HEED bottle. Once again, I reached for the reference point. I felt for the emergency release handle, again to no avail.

At this point I started to panic, thinking I was going to drown. My mind raced as I tried to think of another way to get out. Remembering the helo dunker, I decided to go through the cabin door in the rear, which I knew was wide open.

I unstrapped, and as I moved through the cabin, I saw an unfamiliar sight—the tail-rotor pedals. I thought that I was going the wrong way and decided to turn around before I got trapped. Once I turned around, I saw the yellow emergency handle staring me right in the face. I pushed it forward and the window fell out effortlessly. I knew I was going to live.

I pulled myself out of the helicopter and swam up toward the sunlight.

Looking back, I know I am fortunate to be here to write this article. Not only did I survive a violent crash, but I also managed to avoid drowning, even though I did a number of things wrong.

First, I focused too much on my reference point. Once I had it in my hand, I should have looked for the window emergency release. Second, I couldn't use my HEED bottle during a crisis. Both these errors nearly drowned me.

Lt. Verducci flies with HSL-49.

BRAVO Zulu

BZs require an endorsement from the nominating squadron's CO and the appropriate CAG, wing commander or MAG commander. In the case of helo dets, the CO of the ship will suffice. A squadron zapper and a 5-by-7-inch photo of the entire crew should accompany the BZ nomination. Please include a squadron telephone number so we can call with questions.

Lt. Mitch Hayes
Ltjg. Chris Carbone
Capt. Dave Serage, USAF
Lt. Jake Garcia

VAQ-134

While leading a section low-level on VE-906 from Incirlik Air Base (AB), Capt. Serage (pilot) and Lt. Garcia (ECMO 1) saw a flock of large birds directly ahead of them. Although Capt. Serage pulled up to avoid the birds, the crew felt two thumps, and Capt. Serage saw the right engine's rpm roll back and the EGT spike. Their wingman reported fire coming from Garuda 1's right engine.

Capt. Serage immediately shut down the right engine, kept climbing, and turned toward the nearest divert, Erkilet AB. As the right generator went off line, the INS became unreliable. Lt. Garcia coordinated with Garuda 2 and the AWACS for a vector to Erkilet. The AWACS controller initially thought they wanted to return to Incirlik and gave a vector to their departure field, 120 miles to the south. Realizing the vector was wrong, Garuda 2 gave a steer to Erkilet, 40 miles to the southeast.

Leveling at 8,000 feet MSL, Garuda 2 joined to check over Garuda 1. The wing crew could see that the lower portion of the first Prowler's radome was gone. With the left engine stable at military power, Garuda 1's crew discussed their options and told their wingman they were considering overflying Erkilet to land at Incirlik. At this point, the left engine began having compressor stalls, and Garuda 2 reported flames coming from that engine. Capt. Serage told the crew to prepare for ejection while he checked the engine's performance. With the throttle at military, the left engine fluctuated around 80 percent, providing only 230 KIAS with a 500-fpm descent.

Garuda 1 continued toward Erkilet. Barely clearing a 500-foot ridge, Capt. Serage set up for a left base five miles from runway 7L. Lt. Garcia switched to the tower but couldn't communicate with the Turkish controller. Assured of making the runway, Capt. Serage lowered the gear and set 20-degree flaps at two miles. Ltjg. Carbone (ECMO 2) and Lt. Hayes (ECMO 3) confirmed checklist procedures and landing data.

The crew noticed a C-130 halfway down the runway. Capt. Serage sidestepped to 7R and flared at 170 KIAS. The EA-6B touched down with 4,000 feet remaining at 150 KIAS. The pilot used aerobraking to slow down. He applied the wheel brakes at 90 KIAS with 2,000 feet to go and stopped at the end and taxied clear.

Postflight inspection showed the lower third of the radome was gone. A bird had also hit between the right intake and fuselage, gone down the intake, and knocked part of the intake panel into the engine. The left engine's intake and compressor were damaged.

Lt. William Carey
Lt. Rick Ingrum
AW1 Bruce Kane
AW2 Christopher Billings

Dragonslayer 615, an HH-60H, was flying at 150 feet AGL and 120 knots, on a night SSC mission from USS *George Washington* (CVN 73) during Exercise Bright Star 97. Lt. Carey was the pilot at the controls (PAC) when the aircraft had a high-side failure on the No. 1 engine. Lt. Ingrum (HAC) immediately recognized the indications of the high-side failure. The PAC increased collective to control-rotor speed (Nr) below 118 percent, then turned the aircraft back toward the carrier as the HAC declared an emergency.

Approximately 15 miles from the ship, AW1 Kane and AW2 Billings reported smoke in the cabin. Almost immediately, the fire-warning light flickered several times then came on steady with an associated No. 1 T-handle light. The aircrew saw increasing smoke and what appeared to be a glow out of the port cabin window. The pilots initiated procedures for an in-flight fire. They shut down the No. 1 engine and discharged the main fire bottle into the engine compartment. The No. 1 engine-fire light did not extinguish and within seconds, the No. 2 engine-fire light illuminated, indicating a dual-engine fire. The crew prepared for a controlled ditch.

After analyzing all cockpit indications, with no other indications of fire, the pilots decided to keep the No. 2 engine on line after seeing dissipating smoke. Lt. Ingrum took the controls, checked maximum power and made an uneventful single-engine approach to the carrier.

Maintainers found that the exhaust cone for the No. 1 engine's aft-frame center body had separated and blocked the engine exhaust from passing through the Hover Infrared Suppression System (HIRSS) baffles. No evidence of an external engine fire was found, although there was evidence of extreme overheating. Whether this caused the high-side failure or the high-side failure caused the separation is under investigation.

Maj. Gregory W. Gaff
LtCol. Terry McGuire

While on an adversary training flight in support of VMFA-323, 30 miles east of MCAS Yuma, Maj. Gaff lost pitch controllability in his F-5E. Applying back-stick pressure to recover from a nose-low attitude, he felt the stick abruptly snap back to his lap. Instantly realizing he had no control of the aircraft's horizontal stabilator through the stick, Maj. Gaff terminated the air-to-air engagement and told his wingman, LtCol. McGuire, about the emergency.

LtCol. McGuire quickly joined on Maj. Gaff in a chase position. With airspeed rapidly increasing in the nose-low attitude, Maj. Gaff tried to recover using the pitch-trim switch, a procedure not included in the F-5 NATOPS manual. This effort succeeded, and he regained some control.

LtCol. McGuire examined Maj. Gaff's F-5 and reported no obvious damage or fluid leaks. Maj. Gaff checked controllability with airspeed gradually reduced below 300 knots and well within the ejection envelope. The check confirmed the F-5 had normal aileron and rudder control, but the stick was completely ineffective in the pitch axis. A little pitch control remained through judicious use of the trim switch, but as the flight continued, Maj. Gaff worried that the trim motor might burn out. Also, airspeed control and deft control over the other aircraft axes was essential because of the relatively slow response of the pitch-trim system.

Maj. Gaff switched the flight to "Sniper Base" UHF frequency to discuss the emergency with the ODO. LtCol. McGuire meanwhile contacted ATC and had the SAR helicopter launched and the crash crew standing by.

Advising his wingman to keep a safe distance, Maj. Gaff further reduced airspeed and lowered the landing gear while still over uninhabited terrain. Fortunately, the gear came down, and only nominal pitch trim corrections were required to maintain level flight.

Maj. Gaff set up to land on Yuma's duty runway (3L) by gradually descending in a wide arc that avoided populated areas while keeping inside the international boundary to the southwest of the airfield.

He lined up his crippled fighter on a 5-mile straight-in and continued to lose altitude to intercept the proper glide slope. Over the runway at an altitude of less than 50 feet, he made one last trim correction. His fighter landed firmly but safely with no further damage. He then deployed the aircraft drag chute and came to a full stop with normal braking.

An inspection revealed the connecting rod that links the control stick to the horizontal stabilator had failed. This incident highlighted a potential hazard to the F-5 fleet because the F-5 NATOPS does not mention any procedures for this emergency. The only way the aircraft could have been recovered is by the procedures that Maj. Gaff used.

Some People Can't Preflight and Chew Gum At the Same

by Lt. Hans Sholley

I CLIMBED THE SH-60B to inspect the hydraulics bay before my midnight launch. The aircraft commander was looking at the ADB and signing the A-sheet in the hangar, so I thought I would get a head start. I carefully opened the "dog house," revealing the Seahawk's three hydraulic pumps, mixing unit and primary servos and began my inspection.

"Cotter pins, safety wire and castellated nuts," I thought as I shone my issued flashlight into every nook and cranny until the HAC interrupted me. He had a question to ask, so I looked up from my huddle over the opened bay and responded.

As I answered, the wadded-up piece of Juicyfruit that I had been chewing launched from my mouth. I watched it for an eternal second as it slowly arced into the inky blackness, presumably into the hydraulics bay below. The void the wad of gum left in my mouth was quickly replaced by the lump in my throat as I realized that I had just FODed the aircraft.

I quickly shone my flashlight to the approximate landing zone, but didn't see anything. I kept looking, veiling my search as a thorough preflight. I finally gave up and called over the plane captain.

The salty second-class airframer hopped up and joined me on top of the bird and asked what the problem was. I hesitantly told him the story only to be interrupted by his fits of laughter as I described the acrobatic chewing gum. We continued our hunt, but now everyone's attention was focused our way.

The aircraft commander came over to see what the commotion was about. I told him a quick version of the story; he just shook his head and handed me his Mag Lite. I gladly turned over my SV-2's flashlight and accepted the superior candlepower of his light. Still shaking his head, the HAC walked back to the hangar tucking my flashlight under the webbing of his survival vest.

Finally giving up, the PC pronounced the hydraulic bay "FOD free." Perhaps sensing my displeasure with my own stupidity, he asked me what type of gum I had been chewing.

"Juicyfruit," I said.

"Ah, Juicyfruit, no problem, sir," he chuckled. "Now if it had been Bubble Yum or Big Red, then that would have been a problem. The MIMs say that Bubble Yum binds controls and Big Red causes corrosion. You were lucky this time."

Time

He put me at ease, and I thought I had put the "Juicyfruit incident" behind me.

I climbed off the helicopter and completed my preflight, only to be met by the extremely agitated HAC. I told him that the preflight looked good, there was no FOD in the hydraulics bay and we would make the launch time. But he was still upset.

He reached down between his vest and his flight suit to where he had temporarily stowed my flashlight and handed it to me. Only this time, it was attached by a lanyard of chewing gum, one end stuck to the elbow joint of my light and the other end smashed into the zipper of his flight suit.

"I found your FOD!" he yelled and stormed away. Apparently, the trajectory of my ballistic gum took it right to my flashlight.

Lt. Sholley flies with HSL-46.

Peter Mersky
color by Laurinda Minke

Stop Your Vessel or I'll Crash in Front of Y

I explained how dark it was and how surface lights could induce vertigo.

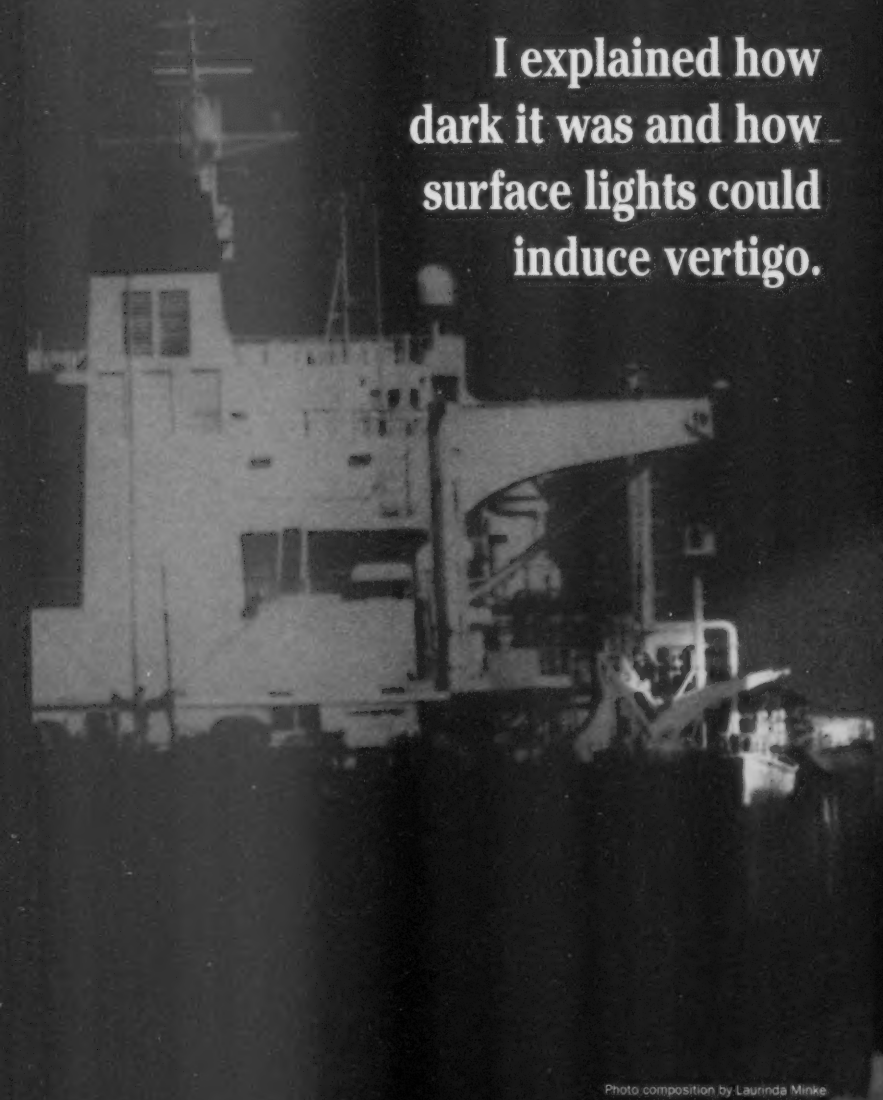


Photo composition by Laurinda Minke

by LCdr. Jim Rance

"THIS IS OUR FIRST CHANCE TO CATCH A BAD GUY."

With that thought in mind, I warned the rest of the crew, "If we have a mishap trying to stop this ship, nobody will remember the suspected oil smuggler."

"Pilot, this is ASTAC, you will have about two minutes to stop this merchant ship in international waters before she re-enters territorial waters." Our job was clear. After tracking this ship for a few days, we were left with minutes to do our job. At least that was what I thought. We wanted to hover our SH-60B in front of the merchant vessel with the searchlight pointing at her so the master knew we were talking to him. We were going to show the rest of the Arabian Gulf deployers how the new guys could do the job. Pretty exciting for our first maritime interception.

"Let's do the automatic approach checklist," I said. As the ATO broke it out, a message came over the datalink: "Pilot, ASTAC, we want you to do the query... and the tactical action officer wants to know how that new forward-looking infrared is working." This would not be as easy as I thought. I didn't want to look bad for our first potential bust.

"ATO, break out the query card for this scenario. I think it's number three or four in the gouge book. SENSO, is the FLIR working? What do you see?" As they responded to my tasking, I made sure we stayed in a

ou!

good tactical position. I looked at the ATO. He had his map light up full with a checklist in each hand. The AW2 had become quiet, but I could see the flickering glow of the FLIR monitor emanating from the back as he changed the settings.

"Wow," I said, "this is the darkest night I've seen in a long time! OK, let's slow down a second and complete the automatic approach checklist before we do anything else." After we finished, I said, "ATO, you do the query so I can concentrate on flying. Don't mess it up and make the OIC look bad over here." I thought, "I better get behind this contact of interest so I can make my approach directly into the wind."

As the ATO began his one-way conversation with the merchant's captain on bridge-to-bridge and the SENSO continued to master the FLIR, I began a left turn and was talking to the ASTAC over the data link. I explained how dark it was and how the surface lights could induce vertigo. I tried looking through the ATO and out his door to see where the merchant was when I heard a familiar beeping sound. After the second beep, I got an incredible pain in my gut. I recalled that I had set my low-altitude index at 60 feet. Immediately, I rolled wings level and included my radar altimeter into my new and improved scan. The bioluminescence filled the view through the chin bubble. The rotor rpm drooped as I pulled an armful of collective and called out, "Back me up!" over the ICS. I chose the correct words to say as I began to receive airspeed and altitude calls from the ATO and SENSO. When we reached 500 feet in straight-and-level flight, we ensured we had radalt-hold engaged.

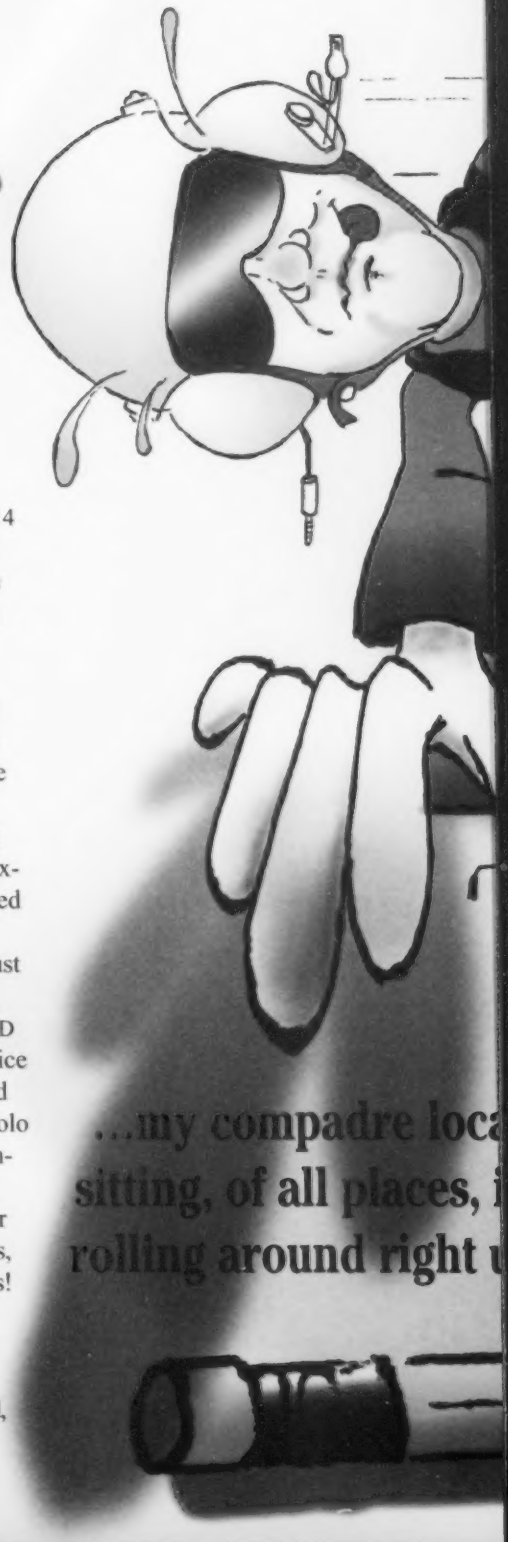
After a couple of moments to catch our breath, we returned to the merchant and circled overhead with our searchlight shining down. She refused to cooperate and got away. The general debrief from the chain of command was "better luck next time." More importantly, I considered how fortunate we were that we weren't debriefing our rescue.

Exactly 24 hours before our flight, a Seahawk from another ship had been lost in amazingly similar circumstances. I knew about that mishap before my mission, and yet I came close to repeating it.

What had gone wrong with our flight? A situation developed that was not included in the brief. I should have slowed down and briefed the plan as we would have briefed a SAR scenario. I should not have accepted a self-induced sense of urgency. I interrupted the first attempt at the coupled-approach checklist, which shattered another golden rule. Why did I agree to conduct a query when the darkness and low altitude mandated strict internal communications for good aircrew coordination? The TAO and ASTAC inside the ship can't tell what the conditions are for flying unless we tell them.

LCdr. Rance flies with HSL-37.

Stupid!



by Lt. Andy Bishop

It WAS A GREAT DAY IN MILTON. I was flying the FAM-14 Solo with a buddy doing his FAM-11. We had a standard brief from the SDO, and we all went out to the flight line after visiting maintenance to pick out a TH-57B of our very own for the afternoon.

A short time later, we were fighting our way around the crowded OLF and having a great time. As we checked out and began the trip home, our shoulders sagged a bit and the packs came off ever so slightly. I was flying from the right seat while my partner got the ATIS info.

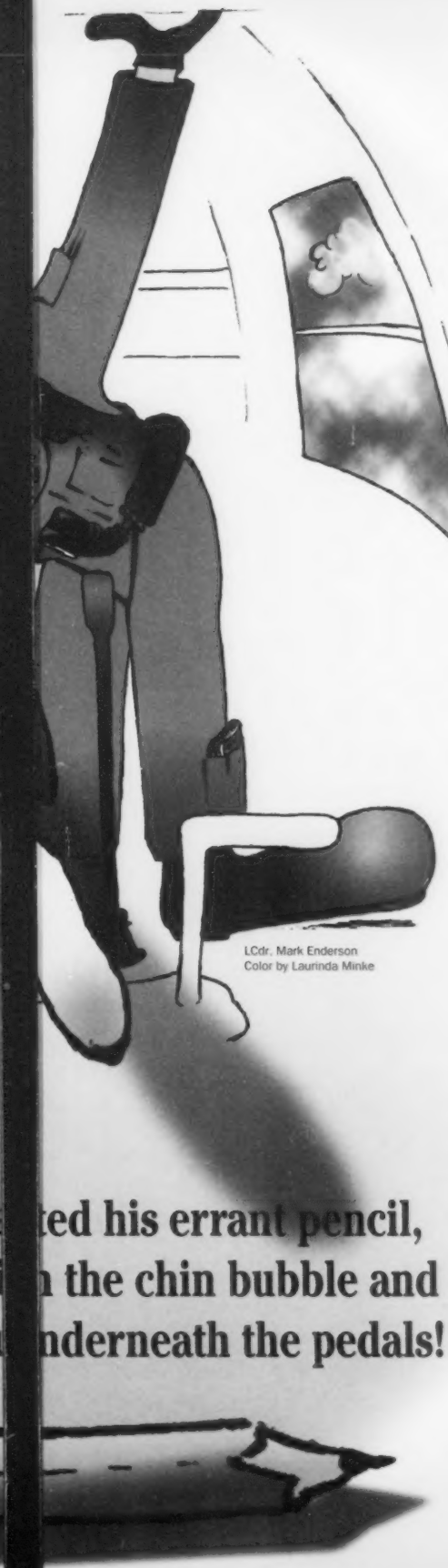
As we approached Pt. Hughes (the Piggly Wiggly parking lot), I could see my companion involved in a wheeling, ever-expanding search for something on his side of the cockpit. I asked him to stop flailing around.

He replied, "I can't find my *colorful expletive* pencil; I must have dropped it!" Gulp.

We had been religiously indoctrinated with stories of FOD in the cockpit and on the flight line, and we'd been told to police our trash after we left the aircraft, ad nauseum. Now it seemed we were going to put a damper on our otherwise uneventful solo with a lot of paperwork and some hostile words from the training officer. On we flew, ignorance being bliss.

I checked in with tower and was about to turn toward Pt. Igor when my compadre located his errant pencil, sitting, of all places, in the chin bubble and rolling around right underneath the pedals! Gulp, gulp.

We decided we didn't want to chance the pencil could catch in the pedals on his side and turn us into a ball of twisted metal, especially noting that taxiing the B required,



LCdr. Mark Enderson
Color by Laurinda Minke

ted his errant pencil,
n the chin bubble and
nderneath the pedals!

in my On-Wing's words, "happy feet." All that movement was surely tempting the devil. Instead we made a pact with him and did something more stupid.

While I flew, he unstrapped and practically stood up, holding himself steady with his hand above him on the windscreen, doubled over the controls. He grasped vainly for the pencil a few times while I prayed that we didn't have an engine failure. What seemed like an eternity lasted a few seconds, and he was strapped back in and burying the pencil deep in a flight-suit pocket and stapling it shut.

We landed and taxied back, shut down and walked away. Our debrief between ourselves brought up several good items to share, not least of which was "Don't be stupid." First, the better plan would have been to wait until we landed, request a moment on the ground for my friend to de-FOD the chin bubble, then taxi. Because he was unstrapped even for a few seconds, he could have been the story line for another article. Second, his precarious perch over the flight controls could have exacerbated the problem quickly. He was not only blocking my view to the left but not looking, himself, as we approached a busy reporting point.

All these problems came from an exaggerated sense of urgency about getting that pencil before it killed us. The reality was, as long as we could see that it was not interfering with the controls, there was no danger.

Biggest lesson of all: don't take an unusual situation and make it a scary one when time seems to be rushing you. Take your time, make a sound decision based on an intelligent thought process, not an irrational fear. FOD is dangerous, yes, but so is stupidity!

Lt. Bishop flies with HSL-44.

Behind th

by LCdr. J.T. Young

"Damn, my first fleet night pass and I'm getting waved off!" I thought as the waveoff lights came on. Then I realized I had more problems than a bruised ego: my jet dropped out of the sky with the throttles at max and the ball falling off the lens. Remember training command LSOs saying, "Low, slow and underpowered is no way to go through life"? That's where I was, in the middle of a sequence of events that would end with me watching myself on the evening news from a hospital bed, and feeling seriously lucky to be there.

How did I get there? The day had begun as a CQ refresher with me as Dash 2 in a division of Hornets from Cecil. A month out of the FRS and I was heading back to the boat. The plan was to get four day, afternoon traps, shut down and eat, then get two night traps before flying back to Cecil. It didn't take long for the plan to flex.

After we marshaled overhead for an hour, bad weather forced us to divert to Cherry Point and go through the pits. Arriving back overhead the ship, we continued to hold, waiting for the weather to clear and other jets to finish their CQ. By the time we were called down and had finished our day work, it was just before sunset. Even though I had been in the cockpit for more than five hours, I felt good.

Before we shut down, we had to consider whether the third flight of the day could end with a night trap. We were told that we were good to go.

After getting some chow, we briefed the night CQ event and rechecked our authorization for the night trap. The answer came back from above that we were.

With jets from two air wings CQing at the same time, the flight deck was clobbered, and the entire CQ was falling way behind. Nobody was sure if we would be turned downwind or sent to marshal for comfort time. It was confusing. By the time I manned up, it was after 0100 and beginning the thirteenth hour of crew day. Although I was tired, I still felt I could do some good work behind the ship. I wanted to get this night trap and get out of there. Not the best mentality for a new guy to have.

I launched into the no-moon night with a full bag of gas, including a full centerline drop tank. Approach turned me downwind into the bolter-waveoff pattern. On downwind, I was very busy dumping fuel and setting things up in the cockpit for the night approach. I was behind the jet, paying attention to dumping fuel and going through checklists. When hooked in to intercepting the

Out of the

e Jet and

final bearing at four miles, I set myself up way left and high. I spent the approach working off the high and fixing lineup. By the ball call, I had centered the needles and transitioned to an outside scan. After a couple of power calls, the waveoff lights came on and the bottom fell out. I was coming down. It was an exceptionally hard landing. I felt the tug of an arresting wire for an instant and then continued on my way with the cans lit. After getting airborne, I thought, "Something really bad just happened back there."

My mainmounts had not quite made it over the rounddown, hitting six inches short. My hook slapped the rounddown and skipped down the landing area until engaging the 3-wire, of all things. It pulled the wire until the damaged hook point broke off and ended up hitting one of the deck crew, but no serious injuries. The wire engagement didn't slow my aircraft below flying speed before the hook point broke off. Not knowing this at the time, I immediately raised the gear handle when I got airborne again to reduce drag and hoped the jet would fly away, which it did. The only abnormal indication in the cockpit was a light in the gear handle and gear tone as I climbed away.

The ship told me to divert back to Cecil. I called for a rep and after discussing the situation, I decided to not exceed 250 knots on the way back because of the gear-handle light.

A few minutes later I got the call from air ops.

"Four Eleven, are you OK?"

"Yes, sir"

"Well, your hook is gone, and it looks like you may have serious damage to your landing gear."

Not good.

After more discussion with the ship about my fuel state, a pilot from my sister squadron called. He was 20 miles in front of me heading back to Cecil and offered to join up on me and check out my aircraft. He had NVGs and when he joined up, he said my hook shank was still attached to the jet but the hook point was gone. One of the landing gear doors was still open.

We went over the alternatives and decided that he'd stay on my wing as we flew back to Cecil and would check my gear when I lowered it.

I arrived overhead Cecil at 0230 after a long dark flight home and dropped the gear handle. Three down-and-locked. Yeah! Maybe I'd get out of this one OK after all.

Envelope

Initially, the gear looked good to my wingman. However, he soon noticed that the starboard mainmount was bent out approximately 45 degrees. Definitely bad news. I was going to have to land on the runway with a broken landing gear and no hook. I'd blown my trap at the ship that night and would not get another chance at the field. The squadron SDO went over emergency procedures from NATOPS, and the skipper briefed me over the radio. The last thing he said was, "If the jet goes off the runway and feels like it's going to flip, don't hesitate to get out."

After I flared the landing on the side with the good tire, the jet initially tracked down the runway. The right landing gear soon collapsed, and the Hornet drifted to the right. I stood on the left brake but continued to go right. I ended up traveling sideways as the aircraft left the runway. I felt the fighter lean to the left, and I pulled the ejection handle.

The Hornet cartwheeled in the dirt after the wing dug in and the nose broke off through the cockpit. As it turned out, I was outside the envelope when I ejected. My chute opened about a second before I hit the ground hard. Like I said, I watched the news that night from a hospital bed with a very tender rear end and felt lucky to be there.

Ball-flying technique aside, there are a number of factors that led to this mishap. I learned several lessons.

Adhere to your squadron's SOP restrictions or get proper authority to deviate from them. We all want to accomplish whatever mission we have been tasked with, whether it's flying a successful airwing strike at Fallon or getting your quals. It's easy to let "mission creep" interfere with your decision-making process. SOP restrictions on crew day and flights per day are there for a reason, because people have hurt themselves in the past exceeding them. When plans change and things get strung out, don't assume the rules have changed. If I had followed our SOP, I would not have been behind the ship that night.

ORM issue: Was it worth pushing for one night trap eight months before the squadron began shipboard workups?

Solid aircrew coordination among single-seat pilots can make the difference. The pilot from my sister squadron was a hero for joining up with me from 20 miles away and letting me know the status of my aircraft using his NVGs. I had no indications that there were any gear problems in the cockpit after I lowered the handle other than his visual confirmation. This information, combined with my CO's advice to "get out," was invaluable in preparing me for what was to come.

If you're not ready for a pass behind the ship, 'fess up and help yourself. Approaching the ship at night is not the place for a nugget, or anyone, to be task-saturated and behind the jet. I should not have accepted the four-mile hook, I should have extended to 10 miles for the fuel dump and to get things squared away. Doing so would have set me up for a better approach and a safer pass.

I stood on the left brake but continued to go right. I ended up traveling sideways as the aircraft left the runway.

It's tempting to roll your eyes when the LSOs brief "comfort time" for night CQ. After this, you can bet I take it every time.

Have your criteria ahead of time about ejecting when going off a runway uncontrolled. I knew before I landed that there was a good chance I would go off the runway but I barely made it out in time, and I was outside the envelope.

LCdr. Young flies with VFA-86.

Lessons Learned

There are two ways to get smart. One is through experience—we call this "the hard way." The other is to learn through others' experiences. The second method is much easier on our machines and bodies.

Midair Madness

by LCdr. Robert Brown

ONE NIGHT, TWO FIGHTERS LAUNCHED for a defensive counter-air mission in support of a joint training exercise. The weather was clear, with no discernible horizon. As briefed, the lead pilot secured his anti-collision lights and put his wingman in cruise formation. After several orbits on CAP station, the flight came out of the 180-degree turn for another 10 nm leg. Dash 2 had fallen into a 1,500-foot trail with about 50 knots of closure. Lead's single aft-position light gave him minimal reference for distance and closure. As Dash 2 tried to rejoin on lead's right side, he probably lost situational awareness and didn't recognize his closure rate and distance from lead.

The mishap investigation showed that during the last 90 seconds of flight, Dash 2 flew a relatively constant bearing and decreasing range until he struck his lead. The midair smashed Dash 2's canopy, incapacitating the crew and preventing ejection.

The number of night midairs has risen, even though the Navy and Marine Corps have outfitted aircrews with night-vision devices (NVDs). Is the increased ops tempo resulting from the proliferation of joint-training exercises and real-world peacekeeping operations responsible for the increased number of night midair collisions? Probably not. Even though we are putting larger numbers of aircraft in the same piece of sky supporting these exercises and operations, the night midairs have been the result of sloppy basic air-work between sections and divisions. We are running into our wingman and flight lead, not other flights operating in the same area.

During the past six years, Navy and Marine TACAIR squadrons have had six Class A midair collisions at night resulting in seven deaths and seven destroyed aircraft. Three of the six mishap crews were outfitted with NVDs. All of these last six mishaps involved collisions with wingmen, and all but one happened during a rendezvous, not during dynamic portions of the flight. There were no night midairs during the previous eight years.

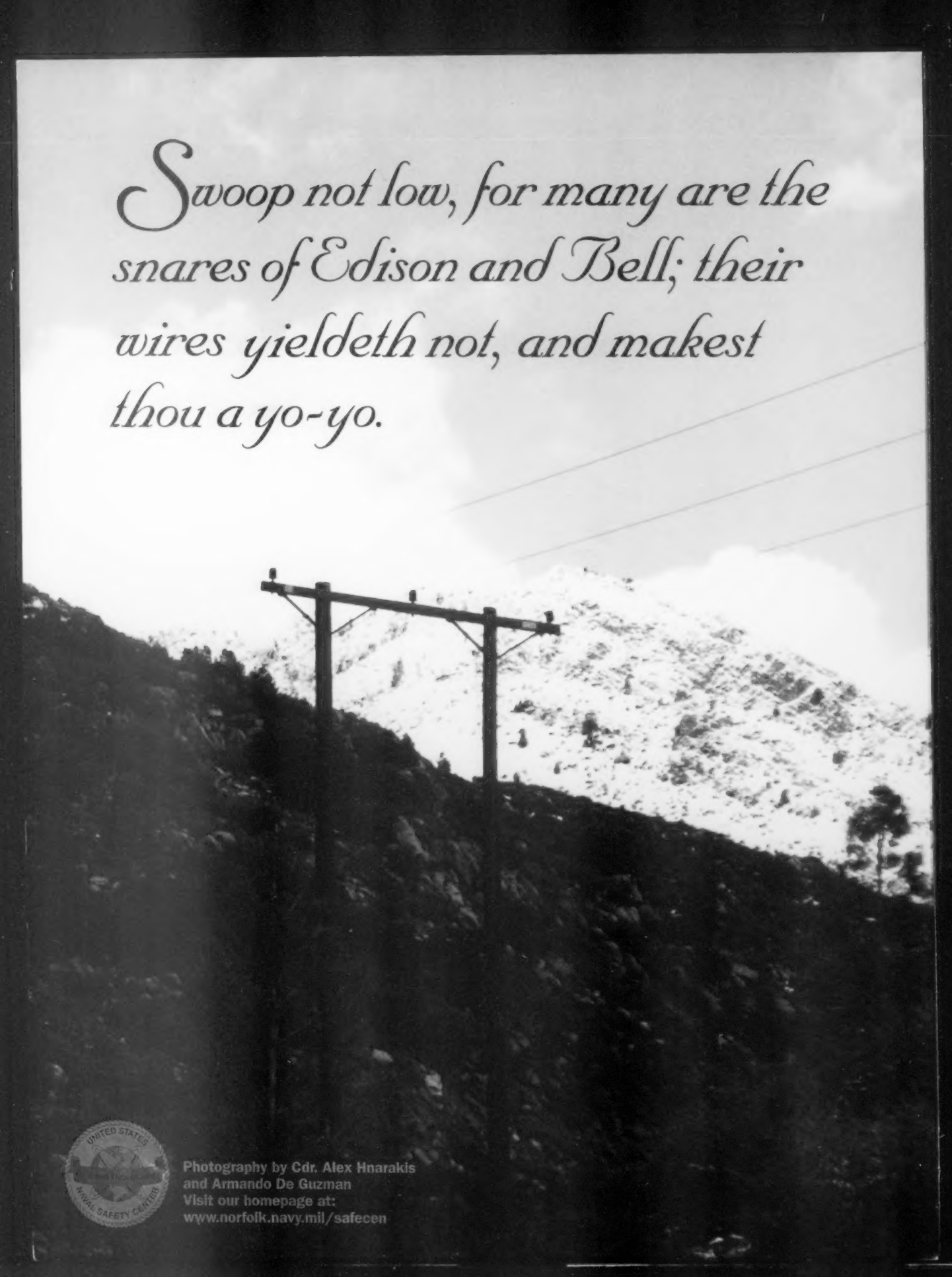
In all of the mishaps, Dash 2 lost track of his lead's position during the rendezvous. Aircrew coordination, which could have prevented closure and a collision, failed within cockpits and between cockpits. In half of these mishaps, inadequate lighting configuration was a contributing factor.

Lessons Learned:

1. Thoroughly brief night-section coordination and rendezvous. Include external lighting, altitude splits and NVD tactics.
2. Follow established aircrew training procedures and stress copilot responsibilities.
3. Reemphasize the hazards of visual illusions and procedures for recovering from disorienting situations.
4. Brief and execute basic rendezvous and formation procedures taught at the FRS.

LCdr. Brown is the F-14, T-45, A-4 and T-2 analyst in the Aircraft Operations Division, Naval Safety Center.

Swoop not low, for many are the snares of Edison and Bell; their wires yieldeth not, and makest thou a yo-yo.



Photography by Cdr. Alex Hnarakis
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